

10 COLT NECK ROAD  
RESTON, VA 22191

## ABBREVIATIONS

ABV	AMPERE
AC	ABOVE
AC	AIR CONDITIONER
AF	AMPERE, FRAME RATING
AFF	ABOVE, FINISHED FLOOR
AHU	AIR HANDLING UNIT
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
COMM	COMMUNICATIONS
CAB	CABINET
CJT	CIRCUIT
CND	CONDUIT
CONN	CONNECT
COP,CU	COPPER
DISC	DISCONNECT
DWG	DRAWING
EF	EXHAUST FAN
ELEC	ELECTRIC
EMER	EMERGENCY
EQ	EQUAL
EQPM	EQUIPMENT
EXH	EXHAUST
EXST	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FLEX	FLEXIBLE
FLA	FULL LOAD AMPERES
FSS	FUSED SAFETY SWITCH
FT	FEET OR FOOT
GF	GROUND FAULT INTERRUPTER
G, GND	GROUND (ING) (ED)
HP	HORSE POWER
HZ	HERTZ
JB	JUNCTION BOX
JUNC	JUNCTION
KWHR	KILOWATT HOUR
L	LENGTH
LTG	LIGHTING
MCA	MAXIMUM CIRCUIT AMPERES
MCB	MAIN CIRCUIT BREAKER
MCC	MODULO CONTROL CENTER
MCS	MOTORED CASE SWITCH
MECH	Mechanical
MFCB	MAXIMUM FUSE CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MOD	MODERATED DAMPER
MOP	MINIMUM OVERCURRENT PROTECTION
MTU	MOUNT (ED) (ING)
MTR	METER (S) (ED) (ING)
N	NEUTRAL
N/L	NIGHT LIGHT (UNSWITCHED)
NFSS	NOT FUSED SAFETY SWITCH
NTS	NOT TO SCALE
P	POLE
PH, Ø	PHASE
PAN	PANEL
PWR	POWER
RPT	RECEPTACLE
RAF	RETURN AIR FAN
RM	ROOM
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TELO	TELEPHONE COMPANY
TEL	TELEPHONE
UTL	UTILITY OTHERWISE NOTED
UTIL	UTILITY
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
W/O	WITH
WO	WITHOUT
WP	WEATHERPROOF

1. REMOVE EXISTING MOTOR CONTROL CENTER (MCC)
2. REPLACE EXISTING 400A DISTRIBUTION CIRCUIT BREAKER WITH 600A CIRCUIT BREAKER
3. REPLACE MCC FEEDER.
4. PROVIDE REPLACEMENT MCC AND PANELBOARD.
5. RECONNECT/REWIRING EXISTING BRANCH CIRCUITS.
6. REMOVE AND REPLACE CONTROL AND MONITORING CIRCUITS.

 SINGLE POLE TUMBLER SWITCH RATED 20A, 125/277VAC, MTD 4'-0" AFF OR AS NOTED.  
 THREE OR FOUR WAY FLUSH TUMBLER SWITCH RATED 20A, 125/277VAC, MTD 4'-0" AFF UON.  
 GENERAL PURPOSE, MOTOR RATED, 250V, 20A, SINGLE POLE DISCONNECT SWITCH.  
 DUPLEX RECEPTACLE 1P, 3W, 20A, 125V, 18" AFF OR AS NOTED.  
 QUADRAPLEX RECEPTACLE 1P, 3W, 20A, 125V, 18" AFF OR AS NOTED.  
 JUNCTION BOX - CONCEALED ABOVE CEILING OR FLUSH WALL MOUNTED.  
 MOTOR CONNECTION. MOTOR PROVIDED AND INSTALLED BY OTHERS UON.  
 DISCONNECT SWITCH (FSS = FUSIBLE, NFSS = NONFUSIBLE) POWER RATING, VOLTAGE AND POLES REQUIRED AS INDICATED ON EQUIPMENT SCHEDULE.  
 BRANCH CIRCUIT HOME RUN TO PANEL DESIGNATED. CONNECT CIRCUIT TO SINGLE POLE, 20A BRANCH CIRCUIT BREAKER IN PANELBOARD INDICATED. PROVIDE NUMBER AND SIZE OF CONDUCTORS AS INDICATED ON PANEL SCHEDULE. "N" INDICATES CIRCUIT NUMBER.  
 BRANCH CIRCUIT PANELBOARD WITH PANEL DESIGNATION AS SHOWN ON THE PLANS.  
 MOLDED CASE CIRCUIT BREAKER, RATINGS SHALL BE AS INDICATED. WHERE NOT INDICATED PROVIDE IAW INTENDED REQUIREMENTS.  
 FUSED DISCONNECT SWITCH, RATINGS FRAME AND FUSE SIZE AS INDICATED. WHERE NOT INDICATED PROVIDE IAW INTENDED REQUIREMENTS.  
 120/208V, 3-POLE, AUTOMATIC TRANSFER SWITCH WITH SOLID NEUTRAL.  
 120/208V GENERATOR  
 (2) SEE NOTE ON SHEET WHERE SYMBOL OCCURS.  
 (E) INDICATES EXISTING DEVICES, EQUIPMENT OR COMPONENTS TO REMAIN, U.O.N.  
 (R) INDICATES EXISTING DEVICES, EQUIPMENT OR COMPONENTS TO BE RELOCATED, U.O.N.  
 (X) INDICATES EXISTING DEVICES, EQUIPMENT OR COMPONENTS TO BE REMOVED, U.O.N.

TITLE SHEET, GENERAL  
NOTES, & DRAWING INDEX

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RESTON COMMUNITY CENTER  
MOTOR CONTROL CENTER REPLACEMENT

**T1**

OF 1

2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 26

SUBMITTAL AND CONSTRUCTION SUBMISSION

NO.	DATE
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RESTON, VA 22191

JOB# 14-100

OF 1

RISER KEYED NOTES

- 1 REMOVE EXISTING 600A MOTOR CONTROL CENTER. DISCONNECT EXISTING BRANCH CIRCUITS AND EXTEND OR REPLACE TO PROPOSED MOTOR CONTROL CENTER OR PANELBOARD AS SHOWN ON PROPOSED RISER DIAGRAM AND MCC AND PANELBOARDS SCHEDULES. SEE SEQUENCE OF WORK ON DRAWING E2
- 2 REPLACE EXISTING 400A, 3-POLE CIRCUIT BREAKER WITH 600A, 3-POLE BREAKER. PROVIDE A NEW FEEDER TO THE PROPOSED MOTOR CONTROL CENTER.
- 3 PROVIDE A 600A, 3-PHASE SQUARE 'D' MODEL-6 MOTOR CONTROL CENTER PER THE SPECIFICATIONS. MOUNTED THE MCC ON THE EXISTING CONCRETE PAD. CONNECT EXISTING BRANCH CIRCUITS AS SHOWN ON PROPOSED MOTOR CONTROL CENTER AND PANELBOARD SCHEDULES. WHERE REQUIRE, INTERCEPT EXISTING CIRCUITS ABOVE THE MCC AND EXTEND. NO SPLICES WILL BE MADE IN THE MCC.
- 4 PROVIDE PANEL "M" WITH MOUNTING FRAME AS SHOWN ON DRAWING E3.
- 5 PROVIDE 350 kCMIL LUG CONNECTION POINTS ON THE MAIN BUS BAR TO ALLOW POWER CONNECTIONS TO PANEL "M". SEE ELEVATION ON DRAWING E3.

GENERAL NOTES

1. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70-2011 & APPLICABLE LOCAL CODES. THE MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED AS REQUIRED. ALL MATERIALS, AS A MINIMUM, SHALL BE NEW AND UNDERWRITERS LABORATORY (U.L.) LISTED.
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATES OF INSPECTION, ETC. REQUIRED BY THE AUTHORITIES HAVING JURISDICTION OVER THIS WORK.
3. THE CONTRACTOR SHALL PROVIDE ALL SUPERVISION, LABOR, MATERIALS, EQUIPMENT, MACHINERY, AND ANY AND ALL OTHER ITEMS NECESSARY TO COMPLETE THE SYSTEM. IT IS THE INTENT OF THESE PLANS AND DOCUMENTS TO PROVIDE A COMPLETELY FINISHED, TESTED, AND OPERATIONAL ELECTRICAL SYSTEM. ANY APPARATUS, APPLIANCE, MATERIAL, AND/OR INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND READY FOR OPERATION, EVEN IF NOT COMPLETELY SHOWN, SHALL BE FURNISHED, DELIVERED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
4. THE CONTRACTOR AND SUB-CONTRACTORS ARE PRESUMED TO BE EXPERIENCED AND KNOWLEDGEABLE OF INSTALLATION PRACTICES AND LOCAL CODE REQUIREMENTS. EACH SHALL MAKE KNOWN TO THE OWNER'S REPRESENTATIVE, WITH THE SUBMISSION OF HIS BID, OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF APPLICABLE LAWS, ORDINANCES, OR RULES, AND OF ANY NECESSARY ITEMS OF WORK OMITTED. IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THAT THE CONTRACTOR AND HIS SUB-CONTRACTORS HAS INCLUDED THE COST OF ALL REQUIRED ITEMS IN THEIR BID, AND THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING AND SEALING ANY AND ALL PENETRATIONS TO THE INTERIOR OR EXTERIOR OF THE BUILDING AS A RESULT OF HIS WORK, IN SUCH MANNER THAT THE DESIGN FIRE RATING IS MAINTAINED. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AS REQUIRED FOR NECESSARY PENETRATIONS. IN THE ABSENCE OF ARCHITECTURAL SPECIFICATIONS, PENETRATIONS SHALL HAVE A TWO (2) HOUR FIRE RATING AND BE WATERPROOF.
6. UNLESS OTHERWISE NOTED, ALL WIRING SHALL BE INSTALLED IN CONCEALED MC CABLE IN OFFICE AREAS. ALL WIRING IN BOILER ROOM AND POOL AREAS SHALL BE IN PVC CONDUIT. CONDUIT INSTALLED OTHER EQUIPMENT ROOMS SHALL BE IN ELECTRIC METALLIC CONDUIT. CONDUIT AT THE EXTERIOR OF THE BUILDING SHALL BE RGC IF EXPOSED AND PVC IF BURIED PROVIDE LIQUID TIGHT FLEXIBLE CONDUIT FOR ALL CONNECTIONS TO MECHANICAL EQUIPMENT AND EQUIPMENT THAT VIBRATES.
7. THE CONTRACTOR SHALL CONSULT DRAWINGS OF ALL OTHER TRADES FOR RELATED AND ADJOINING WORK AND COORDINATE INSTALLATION INTERFERENCES PRIOR TO ANY INSTALLATION OF MATERIAL. THE CONTRACTOR SHALL DEVELOP INSTALLATION DRAWINGS, AS REQUIRED TO COORDINATE THE INSTALLATION OF ALL MATERIALS, EQUIPMENT AND SYSTEMS NEW AND EXISTING. NO ADDITIONAL COMPENSATION WILL BE AWARDED FOR REMOVAL OF NEW MATERIAL, EQUIPMENT OR SYSTEMS THAT HAS NOT BEEN COORDINATED PRIOR TO INSTALLATION.
8. THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT PURPORT TO SHOW ALL MATERIAL NECESSARY FOR A COMPLETE AND USEABLE SYSTEM. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL NECESSARY A COMPLETE USABLE SYSTEM AND SHALL BE RESPONSIBLE FOR APPROVAL OF WORK BY THE AUTHORITY HAVING JURISDICTION.
9. THE CONTRACTOR SHALL PROVIDE AND INSTALL BRACES/SUPPORTS REQUIRED FOR HIS WORK.
10. ALL LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE WITH LENS, BALLASTS, TRIMS, LAMPS, ETC., IF APPLICABLE.
11. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR WITH ALL CIRCUITS IAW NFPA 70 ARTICLE 250 WHETHER SHOWN OR NOT ON THE PLANS. ADJUST FEEDER AND BRANCH CIRCUIT RACEWAY SIZE IF REQUIRED.
12. VERIFY EQUIPMENT LOCATIONS FOR ELECTRICAL ROUGH-INS WITH OWNER/USER REPRESENTATIVE, FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED. CONFLICTS WITH OTHER EQUIPMENT AND FEATURES SHALL BE RESOLVED PRIOR TO BEGINNING INSTALLATION.
13. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POURED IN PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.
14. COORDINATE AND PROVIDE THE CUTTING AND PATCHING OF BUILDING COMPONENTS TO ACCOMMODATE THE INSTALLATION OF ELECTRICAL EQUIPMENT AND MATERIALS.
15. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, COORDINATE WITH OWNER'S REPRESENTATIVE. INSTALL ELECTRICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE MAXIMUM HEADROOM POSSIBLE.
16. INSTALL ELECTRICAL EQUIPMENT TO FACILITATE MAINTENANCE AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
17. COORDINATE THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT ABOVE CEILING WITH SUSPENSION SYSTEM, MECHANICAL EQUIPMENT AND SYSTEMS, AND STRUCTURAL COMPONENTS.
18. PROVIDE AND ARRANGE FOR REPAIRS REQUIRED TO RESTORE OTHER WORK BECAUSE OF DAMAGE CAUSED AS A RESULT OF ELECTRICAL INSTALLATIONS.
19. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR CUTTING AND PATCHING WORK THAT IS NECESSITATED BY ILL-TIMED, DEFECTIVE, OR NON-CONFORMING INSTALLATIONS.
20. PERFORM CUTTING, FITTING, AND PATCHING FOR ELECTRICAL EQUIPMENT AND MATERIALS TO ACCOMMODATE THE INSTALLATION OF ELECTRICAL EQUIPMENT AND MATERIALS.
21. IN GENERAL, THE WORD "PROVIDE" MEANS TO FURNISH AND INSTALL.
22. ALL EQUIPMENT LUGS SHALL BE U. L. LISTED FOR 75 DEGREE C. FOR COPPER CONDUCTORS. WHERE EQUIPMENT IS NOT LISTED AS SUCH ADJUST CONDUCTOR AMPACITY IAW NFPA 70 ARTICLE 310, TABLE 16.
23. THE CONTRACTOR SHALL PROVIDE CONNECTIONS FOR ALL ELECTRICAL EQUIPMENT INSTALLED ON THIS PROJECT. CONNECTIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND/OR CONSISTENT WITH INDUSTRY PRACTICE. PROVIDE INSULATED BUSHINGS WITH "SMOOTH, ROUNDED, INSULATING SURFACES" WITH DOUBLE LOCKNUTS FOR ALL CONDUITS LARGER THAN ONE INCH ENTERING PANELBOARDS, BOXES, OR OTHER ENCLOSURES.
24. THE OWNER RESERVES THE RIGHT TO INSPECT AND TEST ANY PORTION OF THE EQUIPMENT DURING THE PROGRESS OF ITS ERECTION. THE ELECTRICAL CONTRACTOR SHALL TEST THE ENTIRE SYSTEM IN THE PRESENCE OF THE OWNER OR HIS/HER REPRESENTATIVE WHEN THE WORK IS COMPLETED TO INSURE ALL PORTIONS OF THE WORK ARE FREE FROM DEFECT. ALL EQUIPMENT NECESSARY TO CONDUCT THE ABOVE TESTS SHALL BE FURNISHED AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY DEFECTS NOTED AT NO EXTRA COST TO THE OWNER.
25. PROVIDE A PERMANENT ENGRAVED SIGN AT THE SERVICE ENTRANCE INDICATING: THE AVAILABLE FAULT CURRENT, THE SOURCE OF THE INFORMATION AND THE DATE THE FAULT CURRENT CALCULATIONS WERE PERFORMED.

1 PARTIAL RISER DIAGRAM - DEMOLITION  
E1 NOT TO SCALE

ROOF

ATTIC

1ST FLOOR

BASEMENT

GRADE

2 RISER DIAGRAM - PROPOSED  
E1 NOT TO SCALE

SHAFER  
WILSON  
SARVER  
& GRAY

SWSG

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GENERAL NOTES, SYMBOLS  
RISER DIAGRAM

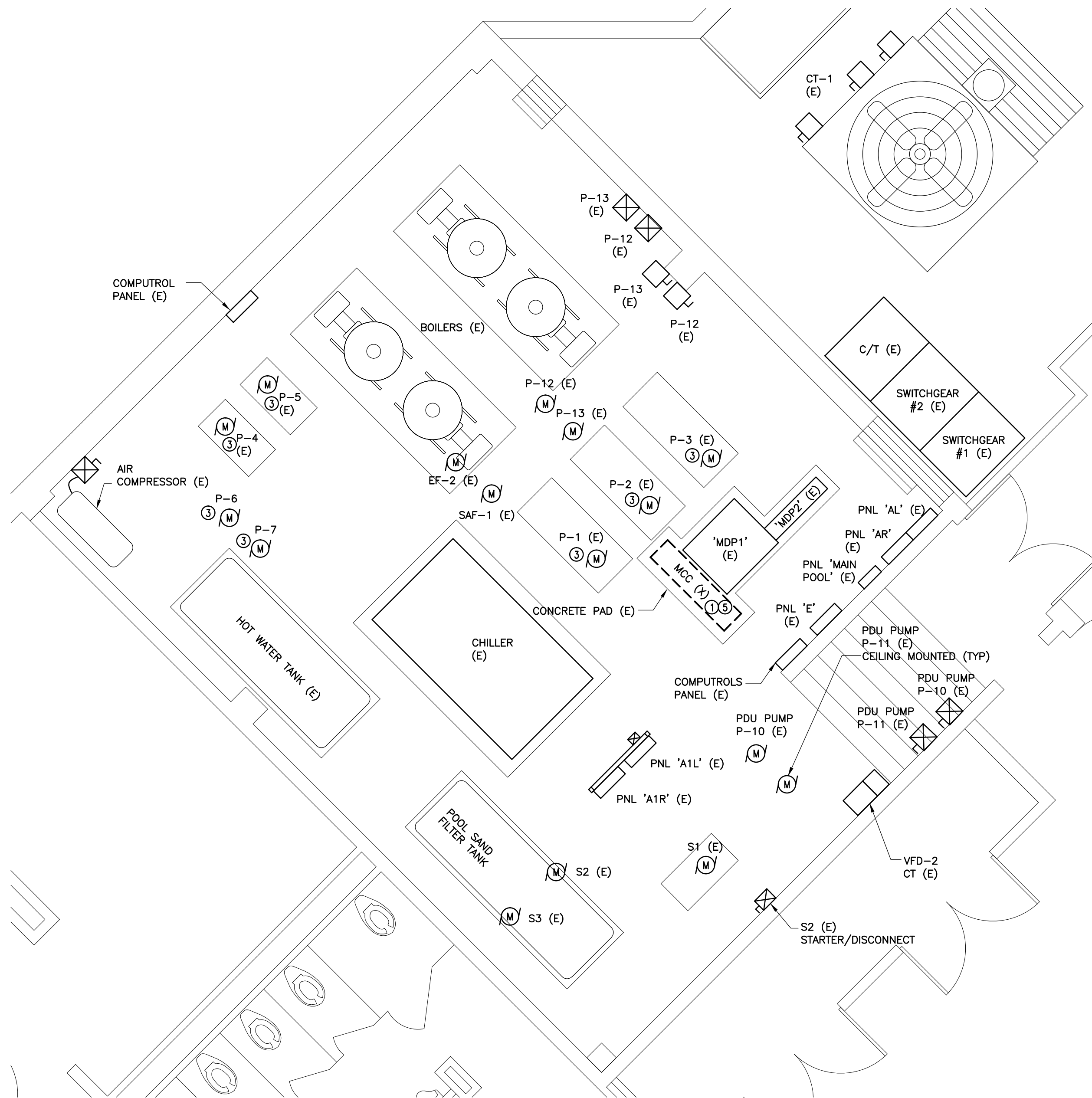
RESTON COMMUNITY CENTER  
MOTOR CONTROL CENTER REPLACEMENT

2310 COLTS NECK ROAD  
RESTON, VA 22191

JOB# 14-100

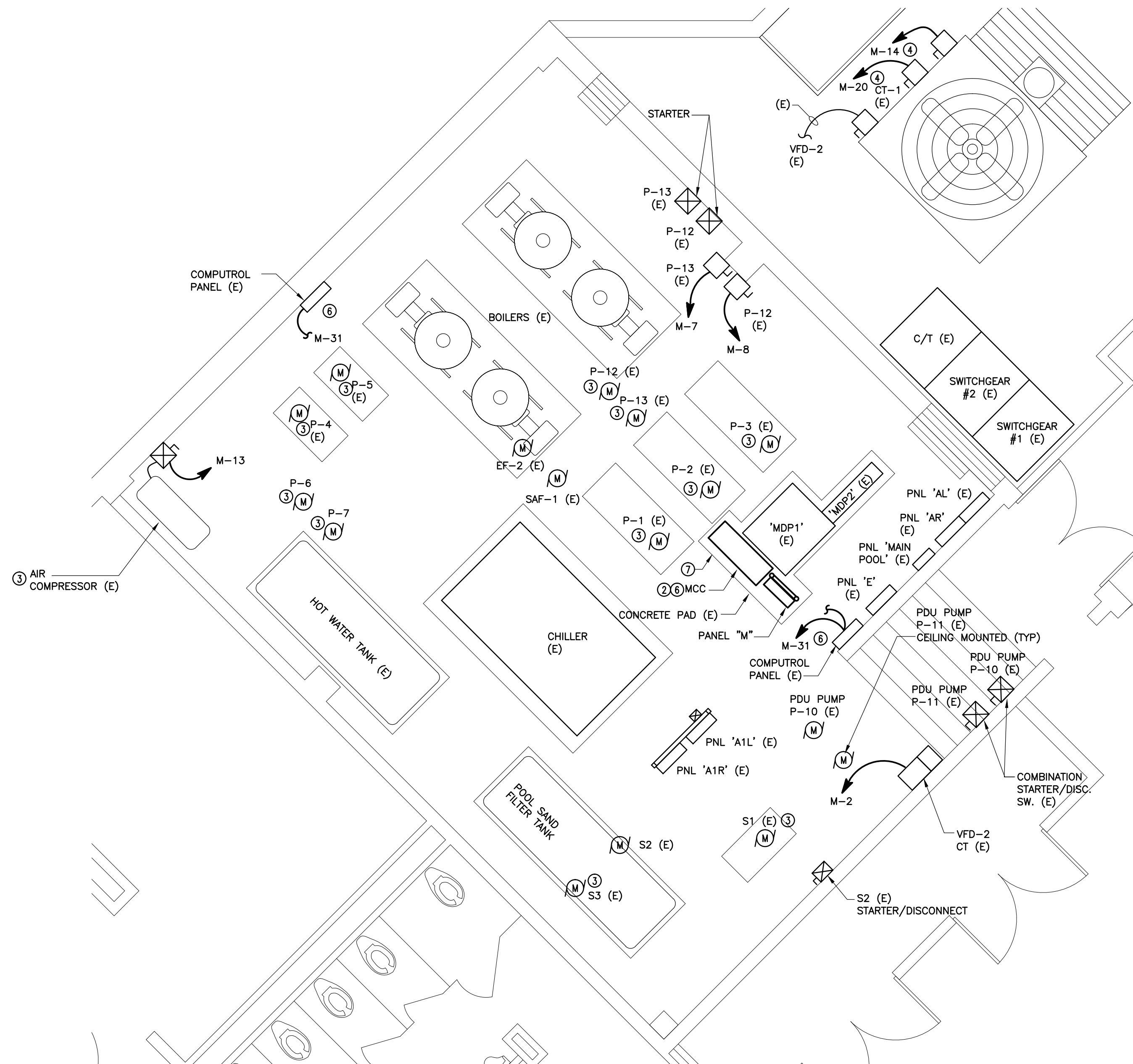
E1

OF 3



**1 BASEMENT DEMOLITION ELECTRICAL PLAN**  
E2 SCALE: 1/4" = 1'-0"

1/4"=1'-0" 0 4 8 FT.



**2 BASEMENT PROPOSED ELECTRICAL PLAN**  
E2 SCALE: 1/4" = 1'-0"

1/4"=1'-0" 0 4 8 FT.

### GENERAL NOTES

- FOR SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES REFER TO DRAWING E1.
- EQUIPMENT SHOWN WITH AN 'E' ARE EXISTING TO REMAIN. PROTECT ALL EXISTING EQUIPMENT TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
- REMOVE ALL DEVICES INDICATED WITH AN 'X' WITH ALL ASSOCIATED CONDUIT CONDUCTORS AND APPURTENANCES TO THEIR SOURCE OR NEAREST DEVICES TO REMAIN. MAINTAIN CONTINUITY OF EXISTING DEVICES TO REMAIN.
- CONTRACTOR MAY REUSE EXISTING, IN PLACE CONDUIT AT HIS OPTION. ALL REUSED CONDUIT MUST MEET THE SPECIFICATION FOR TYPE, USE AND INSTALLATION AND BE WARRANTED AS NEW BY THE CONTRACTOR. TYPICAL FOR ALL REFERENCES MADE TO REUSING EXISTING CONDUIT THROUGHOUT THE PROJECT.
- PROVIDE REVISED TYPE WRITTEN PANELBOARD DIRECTORY CARDS IN METAL HOLDERS UNDER PLASTIC REFLECTING ALL REMOVED AND ADDED CIRCUITS.
- CONTRACTOR TO VERIFY EXISTING CONDUIT AND CONDUCTOR SIZES IN THE FIELD AND REPORT ANY DISCREPANCIES.
- ALL CIRCUITS IN LOCATED IN THE MECHANICAL EQUIPMENT ROOM MUST BE ROUTED IN SCHEDULE 80 PVC CONDUIT.
- PROVIDE LAMICOID ETCHED LABELS FOR NEW MCC SECTIONS. CONFIRM LABEL LOCATION AND DESCRIPTION WITH RCC PERSONNEL PRIOR TO ORDERING.

### DRAWING KEYED NOTES

- DISCONNECT BRANCH CIRCUITS FROM EXISTING MOTOR CONTROL CENTER (MCC). REMOVE CONDUIT CONNECTIONS AND CONDUCTORS FROM MCC AND DEMOLISH THE EXISTING MCC.
- MOUNT REPLACEMENT MOTOR CONTROL CENTER AND PANEL 'M' ON EXISTING CONCRETE PAD. CONNECT BRANCH CIRCUITS AS SHOWN ON MOTOR CONTROL CENTER SCHEDULE AND ELEVATION ON DRAWING E3.
- REMOVE CONDUCTORS FROM EXISTING CONDUIT AND REPLACE WITH NEW. EXTEND CONDUIT AND TERMINATE NEW CONDUCTORS IN REPLACEMENT MCC.
- INTERCEPT EXISTING BRANCH CIRCUIT WITH JUNCTION BOX ABOVE MCC AND EXTEND TO PANEL 'M'.
- CONTACT BOB HAND AT COMPUTROL (202) 316-7311 FOR PRICING AND MANPOWER TO MODIFY THE EXISTING CONTROL SYSTEM. SCHEDULE THE COMPUTROL A MINIMUM OF 2 WEEKS IN ADVANCE TO MAKE SAFE THE CONTROL WIRING PRIOR TO DEMOLITION AND REMOVE THE CONTROL MODULES, SENSORS AND OTHER DEVICES FROM THE EXISTING MCC PRIOR TO DISPOSAL. THE COMPUTROL WILL REINSTALL THE REQUIRED DEVICES IN THE REPLACEMENT MCC.
- THE ELECTRICAL CONTRACTOR WILL PROVIDE A 3" CONDUIT WITH TEN (10) COLOR CODED OR TAGGED CONTROL CABLES CONSISTING OF #16 THIN WIRES EACH BETWEEN THE MCC AND THE CONTROL PANEL. COMPUTROL WILL TERMINATE THE CABLES AT THE MCC AND THE CONTROL PANE'.
- REPAIR THE HOUSEKEEPING PAD TO ACCEPT THE REPLACEMENT MCC AND PANELBOARD SUPPORTS. CUT FLUSH ANY UNUSED CONDUITS. PATCH ANY VISIBLE HOLES OR CONDUIT PENETRATIONS.

### SEQUENCE OF THE WORK

THE RESTON COMMUNITY CENTER (RCC) SCHEDULES A FIVE (5) DAY SHUT DOWN PERIOD FOR MAINTENANCE STARTING MONDAY, AUGUST 31ST AND ENDING SATURDAY SEPTEMBER 4TH DURING WHICH THE WORK WILL BE PERFORMED. BUILDING OPERATIONS MUST NOT BE EFFECTED PRIOR TO THE SCHEDULED SHUT DOWN AND MUST BE COMPLETED PRIOR TO THE SCHEDULED OPENING. THE GENERAL PUBLIC WILL NOT BE IN THE BUILDING DURING THE PERIOD, BUT RCC PERSONNEL AND OTHER CONTRACTORS WILL BE WORKING IN THE BUILDING WITH POWER AND LIGHTING MAINTAINED DURING FROM 7AM TO 5 PM DAILY.

THE CONTRACTOR WILL SUBMIT A DETAILED SEQUENCE OF WORK WITH TASKS AND TIMES REQUIRE FOR EACH TASK WITHIN TWO WEEKS OF CONTRACT AWARD.

SUBMITTALS MUST BE RECEIVED FOR THE MOTOR CONTROL CENTER (MCC), PANELBOARDS, CIRCUIT BREAKERS AND ALL LONG LEAD TEM WITH IN TWO WEEKS OF CONTRACT AWARD. SUBMITTALS WILL BE RETURNED WITHIN TEN BUSINESS DAYS.

THE MCC, PANELBOARD AND OTHER LONG LEAD ITEMS WILL BE RECEIVED, INSPECTED AND STORED ON SITE IN A CONTRACTOR FURNISHED LOCKABLE STORAGE CONTAINER ALONG WITH ALL REQUIRED PERMITS A MINIMUM OF 30 DAYS PRIOR TO THE SCHEDULED SHUT DOWN.

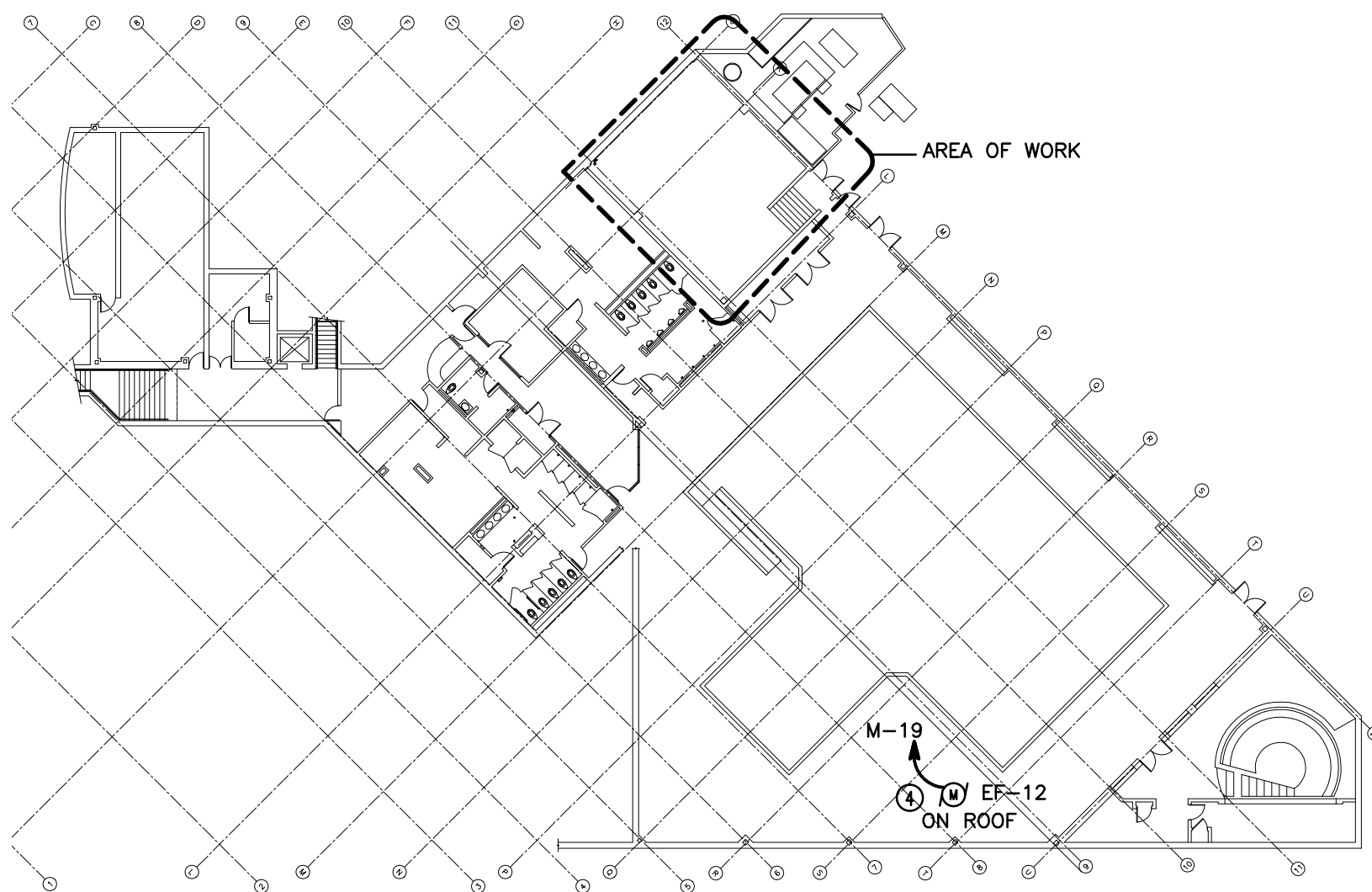
THE CONTRACTOR WILL INSTALL CONDUITS AND PERFORM WORK TO THE MAXIMUM EXTENT POSSIBLE WITHOUT INTERRUPTING OPERATIONS PRIOR TO THE SCHEDULED SHUT DOWN. DEMOLITION OF NON-CRITICAL CIRCUITS MAY BE APPROVED BY THE RCC PROJECT MANAGER DURING THIS PERIOD

DEMOLITION WORK WILL BEGIN THE EVENING OF LAST OPEN DAY WITH THE REMOVAL OF THE EXISTING MCC, CONDUIT, WIRE, CONTROL SYSTEMS AND OTHER APPURTENANCES ASSOCIATED WITH THE MCC.

THE 800A CIRCUIT BREAKER, MCC, AND PANELBOARD WILL BE INSTALLED IMMEDIATELY AFTER DEMOLITION IS COMPLETE. SCHEDULE THE WORK FOR AFTER 5PM TO MINIMIZE POWER INTERRUPTION TO THE BUILDING. SCHEDULE ALL INTERRUPTIONS A MINIMUM OF FIVE DAYS IN ADVANCE OF THE OUTAGE. BUILDING POWER OUTAGES WILL NOT EXCEED 2 HOURS IN LENGTH.

COOLING WILL BE RESTORED TO THE BUILDING WITH IN FOUR (4) DAYS AND TESTED. THE WORK WILL BE COMPLETED WITH 5 DAYS WITH CLEAN-UP, PAINTING, LABELING, O&M MANUALS AND OTHER NON OPERATIONAL WORK COMPLETED THE WEEK FOLLOWING.

ONCE THE WORK IS COMPLETE INCLUDING ALL OF THE ABOVE, THE CONTRACTOR WILL DEMONSTRATE THE OPERATION AND MAINTENANCE OF THE SYSTEM TO RCC PERSONNEL BETWEEN THE WEEKDAY HOURS OF 7AM AND 4PM .



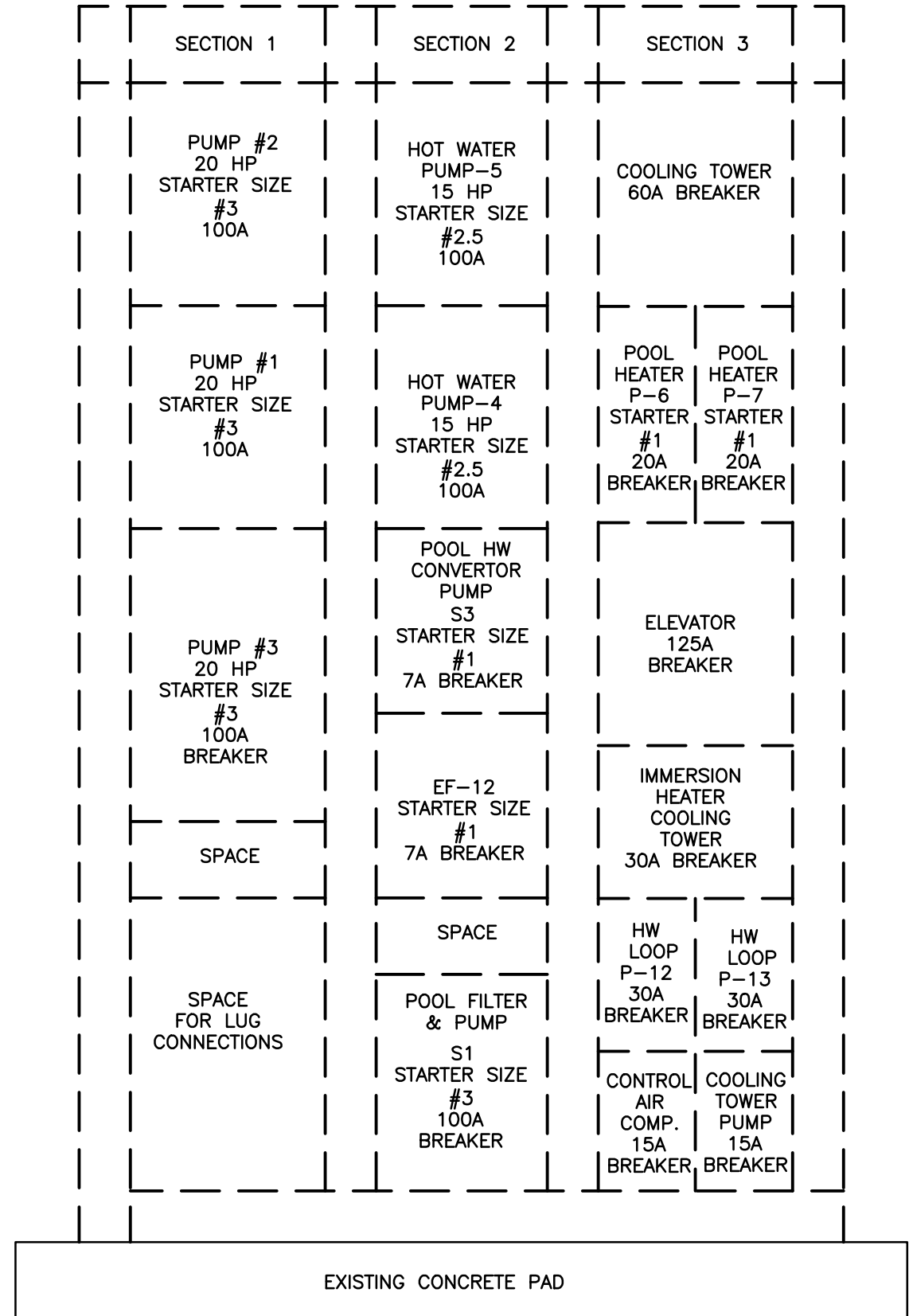
**3 BASEMENT KEY PLAN**  
E2 SCALE: 1/32"=1'-0"



NO.	DATE	PERMIT AND CONSTRUCTION SUBMISSION
02-20-15		

**BASEMENT DEMOLITION  
AND PROPOSED PLANS**  
RESTON COMMUNITY CENTER  
MOTOR CONTROL CENTER REPLACEMENT  
2310 COLTS NECK ROAD  
RESTON, VA 22191

VOLTAGE: 208/120V		3 PHASE, 4 WIRE		AIC: 42,000	
BUS: 600A		MOUNTING: FREE STAND		SOURCE: NORMAL	
MAIN: MLO		LOCATION: MECHANICAL ROOM		SECTION: 1 OF 1	
PANEL: MCC (X)		MCC (X)			
CIRC NO.		LOAD DESCRIPTION		MOTOR (HP)	
1-1		P-1 (CHILLED)		20 62.1 3 7.4 7.4 7.4 3 X X X 100 100 X YES M	
1-2		P-2 (STAND-BY)		20 62.1 3 7.4 7.4 7.4 3 X X X 100 100 X YES M	
1-3		P-3 (CONDENSER)		20 62.1 3 7.4 7.4 7.4 3 X X X 100 100 X YES M	
1-4		SPACE			
2-1		P-4 (HW)		15 48.3 2 5.8 5.8 5.8 2.5 X X X 100 90 X YES M	
2-2		P-5 (HW)		15 48.3 2 5.8 5.8 5.8 2.5 X X X 100 90 X YES M	
2-3		CT-1 (COOLING TOWER)		15 48.3 2 5.8 5.8 5.8 2.5 X X X 100 90 X YES M	
2-4		S3 (HEATER)		1 4.6 1 0.6 0.6 0.6 1 X X X 60 7 X YES M	
2-5		EF-12		1 4.6 1 0.6 0.6 0.6 1 X X X 60 7 X YES M	
2-6		SPACE			
2-7		S1- POOL FILTER AND PUMP		3 61.0 1 7.3 7.3 7.3 3 X X X 100 100 X YES M	
3-1A		POOL HEATER PUMP P-6		1 4.6 1 0.6 0.6 0.6 1 X X X 20 X YES N	
3-1B		POOL HEATER PUMP P-7		1 4.6 1 0.6 0.6 0.6 1 X X X 20 X YES M	
3-3		ELEVATOR		25 74.8 - 9.0 9.0 9.0 E 125 X YES LM	
3-4		IMMERSION COOLING TOWER HEATER		6 KW 16.7 - 2.0 2.0 2.0 60 30 X N	
3-5A		BOILER LOOP, P-12		5 16.0 1 1.9 1.9 1.9 60 30 X YES M	
3-5B		BOILER LOOP, P-13		5 16.0 1 1.9 1.9 1.9 60 30 X YES M	
3-6A		CONTROL AIR COMPRESSOR #1		E 10.6 1.3 1.3 1.3 E 15 X YES M	
3-6B		CT-1 PUMP (COOLING TOWER PUMP)		3 11.0 1.3 1.3 1.3 80 15 X YES M	
Notes:		DISCONNECT EXISTING CONDUIT AND WIRE FROM THE MCC AND EXTEND TO THE REPLACEMENT MCC. PROVIDE NEW CONDUCTORS AS SHOWN IN THE GENERAL NOTES ON THIS DRAWING.		CONNECTED (KVA) (AMP) 51.6 154.8 51.6 430	
LOAD TYPE CODE LETTERS		(KVA) (AMP)		C CONTINUOUS LOAD (125% OF CONTINUOUS LOAD) 0.0 0	
				LM LARGE MOTOR LOAD (LARGEST MOTOR x 125%) 33.8 94	
				M MOTOR LOAD (100% OF LOAD) 120.0 333	
				N NON-CONTINUOUS LOAD (100% OF LOAD) 7.8 22	
				161.6 449	
				FEEDER SIZE 1 2 3 4 5 6 7 8 9 10 11 X REMOVE EXISTING CIRCUIT AND EXTEND TO NEW (CONDUIT AND WIRE) E EXISTING CIRCUIT TO REMAIN	



1 MOTOR CONTROL CENTER – DEMOLITION  
E3 SCALE: 1"=1'-0"

VOLTAGE: 208/120V		3 PHASE, 4 WIRE		AIC: 42,000	
BUS: 600A		MOUNTING: FREE STAND		SOURCE: NORMAL	
MAIN: MLO		LOCATION: MECHANICAL ROOM		SECTION: 1 OF 1	
PANEL: MCC (REPLACEMENT)		MCC (REPLACEMENT)			
CIRC NO.		LOAD DESCRIPTION		MOTOR (HP)	
1		P-3 (STAND-BY)		20 62.1 3 7.4 7.4 7.4 X X RED GREEN X X 150 100 1 YES LM	
2		P-1 (CHILLER)		20 62.1 3 7.4 7.4 7.4 X X RED GREEN X X 150 100 1 YES M	
3		P-2 (STAND-BY)		20 62.1 3 7.4 7.4 7.4 X X RED GREEN X X 150 100 1 YES M	
4		MAIN LUGS FEEDERS			
5		P-5 (HW)		15 48.3 2.5 5.8 5.8 5.8 X X RED GREEN X X 150 100 1 YES M	
6		P-4 (HW)		15 48.3 2.5 5.8 5.8 5.8 X X RED GREEN X X 150 100 1 YES M	
7		S1- POOL FILTER AND PUMP		15 61.0 3 7.3 7.3 7.3 X X RED GREEN X X 150 100 1 YES M	
8		POOL HW CONVERTOR PUMP S3		1 4.6 1 0.6 0.6 0.6 RED GREEN X X 100 20 2 M	
9		POOL HEATER P-6		1 4.6 1 0.6 0.6 0.6 RED GREEN X X 100 20 2 M	
10		POOL HEATER P-7		1 4.6 1 0.6 0.6 0.6 RED GREEN X X 100 20 2 M	
Notes:		CONNECTED (KVA) (AMP) 29.7 89.1 29.7 243		FEEDER SIZE: 1 3/4x2-1/8IG IN 1-1/4" 2 3/4x2-1/8IG IN 3/4" 3 4 5 6 7 8 9 10 11 X REMOVE EXISTING CIRCUIT (CONDUIT AND WIRE) E EXISTING CIRCUIT TO REMAIN	
LOAD TYPE CODE LETTERS		(KVA) (AMP)		C CONTINUOUS LOAD (125% OF CONTINUOUS LOAD) 0.0 0	
				LM LARGE MOTOR LOAD (LARGEST MOTOR x 125%) 27.8 77	
				M MOTOR LOAD (100% OF LOAD) 66.9 186	
				N NON-CONTINUOUS LOAD (100% OF LOAD) 0.0 0	
				94.7 263	

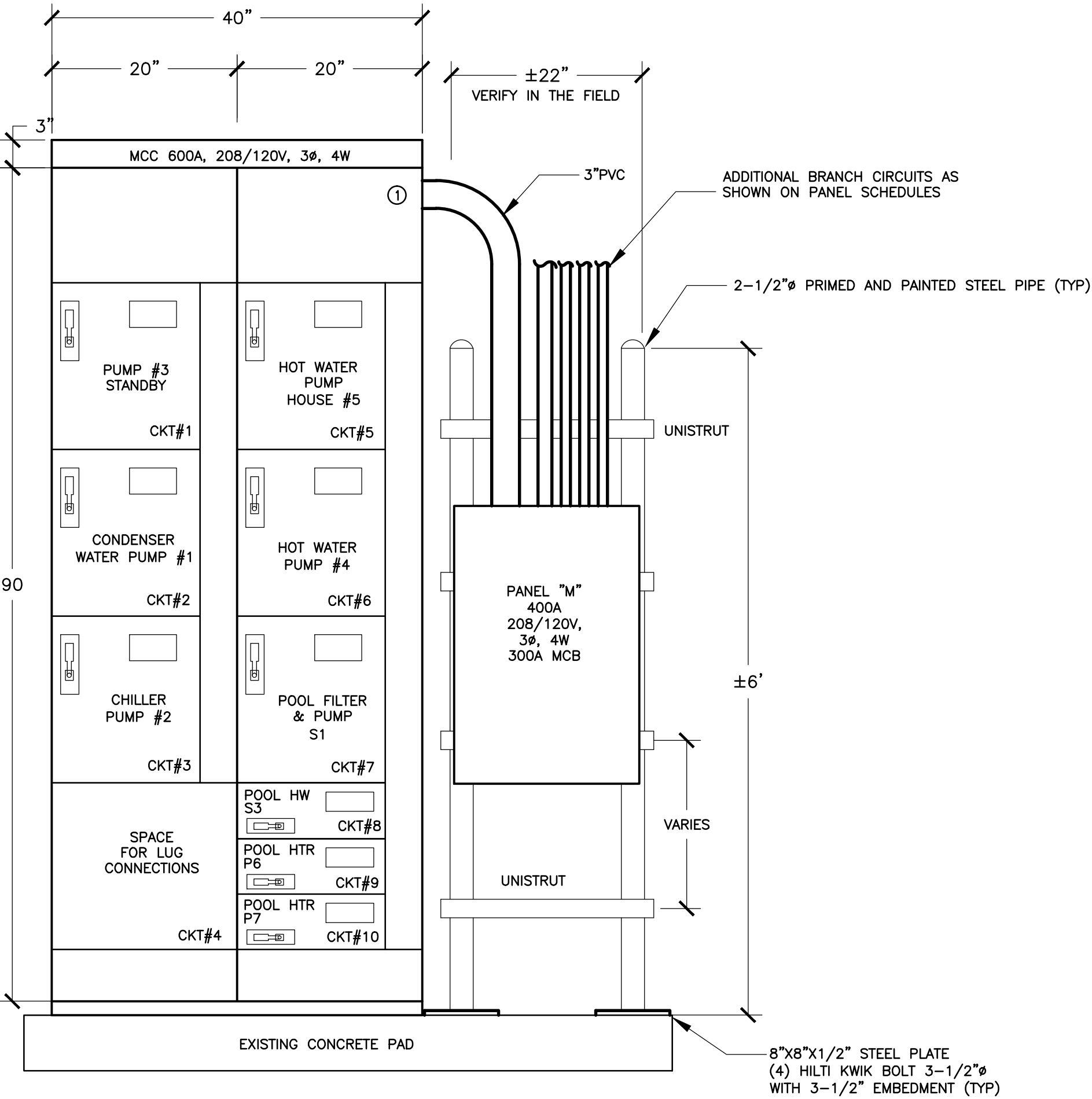
### GENERAL NOTES

A. DISCONNECT CONDUIT AND REMOVE CONDUCTORS FROM THE DEMOLISHED MOTOR CONTROL CENTER (MCC).

B. REPLACE BRANCH CIRCUITS FOR PUMPS: P-1, P-2, P-3, P-4, P-5, P-6, P-7, P-12, P-13, S1 AND S3. ALSO REPLACE CONDUCTORS FOR CT FAN, CT BASIN HEATER, CT PUMP AND CONTROL AIR COMPRESSOR. EXISTING IN PLACE CONDUIT MAY BE REUSED IF WARRANTED AS NEW.

C. INTERCEPT BRANCH CIRCUITS SUPPLYING THE ELEVATOR AND EF-12 WITH A JUNCTION BOX AND EXTEND CIRCUIT TO REPLACEMENT MCC. IF EXISTING CONDUCTORS ARE SUFFICIENT LENGTH TO CONNECT TO THE REPLACEMENT MCC DIRECTLY THE JUNCTION BOX NEED NOT BE SUPPLIED.

D. AN EXISTING COMPUTROL AUTOMATION SYSTEM CONTROLS THE MCC. CONTRACT WITH A FACTORY AUTHORIZED CONTROLS CONTRACTOR TO DISCONNECT THE EXISTING CONTROL CIRCUITS AND EXTEND THEM TO THE REPLACEMENT MCC. PROVIDE ADDITIONAL JUNCTION BOXES, CONDUIT WIRE AND PROGRAMING AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.



2 MOTOR CONTROL CENTER – PROPOSED  
E3 NOT TO SCALE

VOLTAGE: 208/120V		3 PHASE, 4 WIRE		AIC: 42,000	
BUS: 2000A		MOUNTING: SURFACE		SOURCE: NORMAL	
MAIN: MLO		LOCATION: MECHANICAL ROOM		SECTION: 1 OF 1	
PANEL: 'MDP1' (E)		MDP1 (E)			
LOAD TYPE		LOAD DESCRIPTION		FDR SIZE (KVA)	
N		PANEL 'MDP'		E 70.0 800 1 70.0 2 3P	
N		SPACE			
M		MOTOR CONTROL CENTER		1 54.5 600 3 86.2 4 350 31.7 E	
M		AND PANEL "M"		53.5 / 85.7 / 32.2	
M		(NOTE 1)		53.5 3P 28.4	
N		PANEL 'A'		E 20.7 250 5 54.8 6 300 34.1 E	
N		SPACE			
N		BLANK NOT USED		7 23.0 8 350 23.0 E	
N		BLANK		/ 23.0 3P 23.0	
N		BLANK			
Notes:		1 REPLACE EXISTING 400A 3P BREAKER WITH 800A, 3 POLE TO CONNECT THE CIRCUIT AS SHOWN.		PANEL BOARD SPECIAL FEATURES 200% RATED NEUTRAL SURGE PROTECTION DEVICE (SPD) OTHER	
2					
LOAD TYPE CODE LETTERS		(KVA) (AMP)		C CONTINUOUS LOAD (125% OF CONTINUOUS LOAD) 0.0 0	
				K6 KITCHEN DEVICES (SIX OR MORE AT 65% OF LOAD) 0.0 0	
				LM LARGE MOTOR LOAD (LARGEST MOTOR x 125%) 20.2 56	
				M MOTOR LOAD (100% OF LOAD) 145.4 404	
				N NON-CONTINUOUS LOAD (100% OF LOAD) 437.6 1,216	
				R RECEPTACLE LOAD (FIRST 10KVA AT 100%, REMAIN AT 50%) 57.8 161	
				TOTAL DEMAND 680.9 1,837	
				FEEDER SIZE: 1 3/4x2-1/8IG IN 1-1/4" 2 3/4x2-1/8IG IN 3/4" 3 4 5 6 7 8 9 10 11 X REMOVE EXISTING CIRCUIT (CONDUIT AND WIRE) E EXISTING CIRCUIT TO REMAIN	

VOLTAGE: 208/120V		3 PHASE, 4 WIRE		AIC: 42,000	
BUS: 400A		MOUNTING: SURFACE		SOURCE: NORMAL	
MAIN: 300A MCB		LOCATION: MECHANICAL ROOM		SECTION: 1 OF 2	
PANEL: 'M'		M'			
LOAD TYPE		LOAD DESCRIPTION		FDR SIZE (KVA)	
LM		ELEVATOR		1 9.0 125 1 14.8 2 60 5.8 2	
LM		NOTE 1		9.0 / 3 14.8 4 / 5.8	
LM		HW LOOP P-12		9.0 3P 5 14.8 6 3P 5.8	
M		HW LOOP P-12		3 1.9 30 7 3.8 8 30 1.9 3	
M		CONTROL AIR COMPRESSOR		1.9 / 9 3.8 10 / 1.9	
M		NOTE 1		1.9 3P 11 3.8 12 3P 1.9	
M		NOTE 1		4 1.3 15 13 2.6 14 15 13 4	
M		NOTE 1		1.3 / 15 2.6 16 / 13	
M		NOTE 1		1.3 3P 17 2.6 18 3P 13	
M		EF-12		4 0.6 15 19 2.6 20 30 2.0 3	
M		NOTE 1		0.6 / 21 2.6 22 / 2.0	
M		NOTE 1		0.6 3P 23 2.6 24 3P 2.0	
SPARE		SPARE		15 25 0.0 26 30	
SPARE		SPARE		/ 27 28 /	
N		COMPUTROL PANEL		3P 29 0.0 30 3P	
SPACE		SPACE		5 1.0 20 31 1.0	
SPACE		SPACE		33 33 0.0 34	
SPACE		SPACE		35 35 0.0 36	
SPACE		SPACE		37 0.0 38	
SPACE		SPACE		39 0.0 40	
SPACE		SPACE		41 0.0 42	
Notes:		1 INTERCEPT EXISTING CONDUIT ABOVE MCC. VERIFY CONDUIT AND WIRE SIZE SHOWN. EXTEND EXISTING CIRCUIT AND TERMINATE		PANEL BOARD SPECIAL FEATURES 200% RATED NEUTRAL SURGE PROTECTION DEVICE (SPD) OTHER	
LOAD TYPE CODE LETTERS		(KVA) (AMP)		C CONTINUOUS LOAD (125% OF CONTINUOUS LOAD) 0.0 0	
				K6 KITCHEN DEVICES (SIX OR MORE AT 65% OF LOAD) 0.0 0	
				LM LARGE MOTOR LOAD (LARGEST MOTOR x 125%) 33.8 94	
				M MOTOR LOAD (100% OF LOAD) 27.0 75	
				N NON-CONTINUOUS LOAD (100% OF LOAD) 18.4 51	